

Reston file

(given to Rohde at EDC
on 3-31-83)

3-30-83

cc: AW
GL
GM

IMPACT OF LAND REMOTE SENSING
SATELLITE COMMERCIALIZATION

The Administration, acting on the recommendation of the Cabinet Council on Commerce and Technology, recently announced plans for the commercialization of the country's weather and land remote sensing satellites. This decision has met with almost universal disfavor in Congress and the media, and commercialization of these satellites appears to be more doubtful every day. Indications are that White House support for commercialization is rapidly disappearing.

If land remote sensing satellite systems were commercialized, it is most probable that Landsat data processing, archiving, and distribution activities currently being carried out at the EROS Data Center (EDC) would be partly or wholly transferred to the private sector. The EDC performs these functions with NOAA/DOC funding (\$5.0 million in FY 83 growing to \$6.2 million in FY 85). The FY 83 \$5.0 million in funding includes \$3.3 million for direct labor and supply costs and \$1.7 million for pro-rated facility and overhead costs.

The total EDC cost of operation in FY 83 is \$17.2 million, with \$5.0 million of this provided by NOAA for Landsat data handling activities, and 65 of the total staff of 338 dedicated to Landsat support. All Landsat and aircraft data processing, archiving, cataloging, and distribution activities at the Center utilize shared facilities, equipment, and staff resulting in economies of scale. There is no unique Landsat equipment available for transfer to the

private sector, and removal of Landsat support activity from the Center would not directly free up the above number of personnel or dollars, although it would leave the Center with excess data production and handling capacity.

If NOAA funding support were removed consistent with the private sector transfer (presumably in the FY 85/FY 86 time period), an adjustment to base of approximately +\$2.0 million would need to occur in the DOI/GS budget to allow other DOI activities to continue at the current level. It should be noted that the DOI/GS budget was reduced \$5.9 million from FY 82 to FY 83, as NOAA assumed responsibility for overall Landsat funding (\$3.0 million in appropriations and \$2.9 million in revenue from the sale of Landsat products).

If Federal employee layoffs were "discouraged," the net effect of private sector transfer of Landsat activities at EDC without adjustment to base funding would be a major reduction in the spatial data research and applications activities underway at the Center in support of DOI/GS/NMD needs. A portion of the staff personnel and other resources used on shared (Landsat and aircraft) production activities would have to be absorbed by the aircraft data handling and distribution effort in order to keep production lines and computerized accession and order handling systems operating, and both aircraft data handling and distribution and spatial data research and applications would have to pick up the share of fixed facility costs and overhead previously apportioned to Landsat. The following table (projected for FY 85) summarizes this impact:

FY 85

(\$ in millions)	With \$6.2M NOAA Funding		With No NOAA Funding	
	<u>Direct</u>	<u>Total</u>	<u>Direct</u>	<u>Total</u>
USGS/DOI Data Handling and Distribution	\$3.6 (86 staff)*	\$5.4	\$4.5 (120 staff)*	\$7.2
Spatial Data Research and Applications	\$4.1 (94 staff)*	\$5.2	\$2.2 (39 staff)*	\$3.4
NOAA Landsat Data Handling and Distribution	\$4.4 (73 staff)*	\$6.2	0 (0 staff)*	0
Total	\$12.1	\$16.8	\$6.7	\$10.6

*Excludes facility operations and overhead staff of approximately 75.

Thus, assuming that aircraft data handling and distribution requirements would remain fairly stable, the primary impact of commercialization of Landsat would be to increase the resources required for aircraft data handling, to decrease the total EDC staff and budget, and to significantly reduce activities in spatial data research and applications. To avoid this substantial impact, an adjustment to DOI/GS base of +\$2.0 million would be necessary. This would avoid the layoff of some 50 professionals with unique capabilities in computer science and applications of digital spatial data.

The opportunity is available and departmental and congressional support would probably be provided for budget initiatives of this magnitude for activities in support of a Federal Lands Information System to be developed and operated by EDC. Ongoing activities in image mapping, user interface for applications

of digital data bases and products, and spatial data research and manipulation could also be used to defend the above adjustment to base.

With the more probable scenario of no commercialization of Landsat space or ground systems, it is possible to examine two alternatives; 1), Government funded Landsat satellites are approved and exist following Landsat 4 and 5; and 2) no follow-on satellites are approved following Landsat 4 and 5. In the first alternative with follow-on satellites, it is most likely that EDC would continue Landsat activities at a level similar to the current NOAA-funded level. In the case of no follow-on satellites, it is likely that EDC would continue to archive and distribute the existing data products from Landsat 1-5 at funding levels from either appropriations or sales revenue close to existing levels. In this latter case, the archive would not be receiving any new data from U.S. satellites, and demand and funding could be expected to decrease slowly in the 1990's. It is also possible that NOAA would relinquish management responsibility and associated funding, and DOI/USGS might need to request funding for archive maintenance and distribution at some future date. This should be fairly easy to justify to the OMB and Congress.

Although not directly related to commercialization of Landsat systems, the future involvement of the Data Center in handling and processing of foreign satellite data, i.e., data from the French SPOT satellite, is uncertain but may offer opportunities for continued support of satellite remote sensing data and applications.

3-23-83

EDC ACTIVITY COST ANALYSIS
(FY 83)

INCOME

EROS SIR	\$ 7.9M	(46%)		
REVENUE	9.3M	(54%)	(INCLUDES \$5.0M NOAA FUNDING)	
	<hr/>			
	\$17.2M			

COSTS

USGS/DOI DATA HANDLING AND DISTRIBUTION (15/76)	3.6	4.7	4.9	5.4
SPATIAL DATA RESEARCH AND APPLICATIONS (17/84)	5.5	6.0	6.3	6.8
NOAA LANDSAT DATA HANDLING AND DISTRIBUTION (13/52)	3.3	4.2	4.5	5.0
FIXED FACILITY OPERATIONS AND MAINTENANCE (5/53)	2.5	0	0	0
CENTER MANAGEMENT AND ADMINISTRATION (11/12)	0.8	0.8	0	0
USGS/DOI ASSESSMENT	1.5	1.5	1.5	0
	<hr/>			
TOTAL (61/277)	\$17.2M	\$17.2M	\$17.2M	\$17.2M

EDC ACTIVITY COST ANALYSIS
(FY 84)

INCOME

EROS SIR	\$ 7.5M	(48%)		
REVENUE	8.2M	(52%)	(INCLUDES \$5.3M NOAA FUNDING)	
	<hr/>			
	\$15.7M			

COSTS

USGS/DOI DATA HANDLING AND DISTRIBUTION (14/72)	3.6	4.8	5.0	5.4
SPATIAL DATA RESEARCH AND APPLICATIONS (16/74)	3.9	4.3	4.6	5.0
NOAA LANDSAT DATA HANDLING AND DISTRIBUTION (13/52)	3.6	4.5	4.8	5.3
FIXED FACILITY OPERATIONS AND MAINTENANCE (5/52)	2.5	0	0	0
CENTER MANAGEMENT AND ADMINISTRATION (11/11)	0.8	0.8	0	0
USGS/DOI ASSESSMENT	1.3	1.3	1.3	0
	<hr/>			
TOTAL (59/261)	\$15.7M	\$15.7M	\$15.7M	\$15.7M

EDC ACTIVITY COST ANALYSIS
(FY 85)

INCOME

EROS SIR	\$ 7.5M	(45%)	
REVENUE	9.3M	(55%)	(INCLUDES \$6.2M NOAA FUNDING)
	\$16.8M		

COSTS

USGS/DOI DATA HANDLING AND DISTRIBUTION (14/72)	3.6	4.7	4.9	5.4
SPATIAL DATA RESEARCH AND APPLICATIONS (16/78)	4.1	4.5	4.8	5.2
NOAA LANDSAT DATA HANDLING AND DISTRIBUTION (13/60)	4.4	5.4	5.7	6.2
FIXED FACILITY OPERATIONS AND MAINTENANCE (5/52)	2.5	0	0	0
CENTER MANAGEMENT AND ADMINISTRATION (11/11)	0.8	0.8	0	0
USGS/DOI ASSESSMENT	1.4	1.4	1.4	0
TOTAL (59/273)	\$16.8M	\$16.8M	\$16.8M	\$16.8M

EDC ACTIVITY COST ANALYSIS
(FY 85)

INCOME

EROS SIR	\$ 7.5M	(71%)
REVENUE	3.1M	(29%) (NO NOAA FUNDING)
	\$10.6M	

COSTS

USGS/DOI DATA HANDLING AND DISTRIBUTION (25/95)	4.5	6.1	6.6	7.2
SPATIAL DATA RESEARCH AND APPLICATIONS (15/24)	2.2	2.9	3.1	3.4
NOAA LANDSAT DATA HANDLING AND DISTRIBUTION (0/0)	0	0	0	0
FIXED FACILITY OPERATIONS AND MAINTENANCE (4/47)	2.3	0	0	0
CENTER MANAGEMENT AND ADMINISTRATION (10/9)	0.7	0.7	0	0
USGS/DOI ASSESSMENT	0.9	0.9	0.9	0
TOTAL (54/175)	\$10.6M	\$10.6M	\$10.6M	\$10.6M

EDC ACTIVITY COST ANALYSIS
(FY 85)

INCOME

EROS SIR	\$ 6.0M	(66%)	(WITH \$1.5M REDUCTION TO BASE)
REVENUE	3.1M	(34%)	(NO NOAA FUNDING)
	\$ 9.1M		

COSTS

USGS/DOI DATA HANDLING AND DISTRIBUTION (25/95)	4.5	6.5	7.0	7.6
SPATIAL DATA RESEARCH AND APPLICATIONS (14/0)	0.8	1.1	1.3	1.5
NOAA LANDSAT DATA HANDLING AND DISTRIBUTION (0/0)	0	0	0	0
FIXED FACILITY OPERATIONS AND MAINTENANCE (4/47)	2.3	0	0	0
CENTER MANAGEMENT AND ADMINISTRATION (10/9)	0.7	0.7	0-	0
USGS/DOI ASSESSMENT	0.8	0.8	0.8	0
TOTAL (53/151)	\$ 9.1M	\$ 9.1M	\$ 9.1M	\$ 9.1M